

### **Abstract Of The Disclosure**

A method and apparatus are provided for monitoring the quality  
of lubricant that is in a gear mechanism or machine that contains  
5 effective materials. A sample of the lubricant or of the vapor that  
escapes from the lubricant is withdrawn from the gear mechanism or  
machine. The sample is conveyed to an ion mobility spectrometer,  
where materials present in the vapor phase above the lubricant are  
analyzed. The change of the content and of the type of the analyzed  
10 materials in the sample is utilized as the actual condition for the aging  
of the lubricant.

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